

TSXV: CST

MANAGEMENT DISCUSSION AND ANALYSIS,  
AS AT DECEMBER 31, 2011

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# ENZYMATIC POWER FOR CARBON CAPTURE





## MANAGEMENT'S DISCUSSION AND ANALYSIS SIX MONTH PERIOD ENDED DECEMBER 31, 2011

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### GENERAL

The following is a discussion and analysis of the unaudited consolidated financial condition and results of operations of CO<sub>2</sub> Solutions, Inc. ("**CO<sub>2</sub> Solutions**" or the "**Company**") for the three and six-month periods ended December 31, 2011 and 2010. The unaudited condensed interim consolidated financial statements referred to herein include the accounts of the Company, its subsidiary companies and other entities, directly or indirectly controlled by the Company. This discussion and analysis should be read in conjunction with the information contained in the unaudited condensed interim consolidated financial statements and related notes for the six-month period ended December 31, 2011 prepared in accordance with International Financial Reporting Standards and with the Management's Discussion and Analysis for the year ended June 30, 2011, prepared in accordance with Canadian generally accepted accounting principles. The June 30, 2011 Annual Report of CO<sub>2</sub> Solutions and additional information regarding the Company are available on SEDAR at [www.sedar.com](http://www.sedar.com). Unless otherwise stated, all amounts specified in this report are expressed in Canadian dollars.

The information contained herein is dated as of February 8, 2012, date of the approval by the Board of the MD&A and the unaudited condensed interim consolidated financial statements.

### BASIS OF PREPARATION AND ADOPTION OF INTERNATIONAL FINANCIAL REPORTING STANDARDS ("IFRS")

The Company prepares its financial statements in accordance with Canadian generally accepted accounting principles as set out in the Handbook of the Canadian Institute of Chartered Accountants ("CICA Handbook"). In 2010, the CICA Handbook was revised to incorporate International Financial Reporting Standards ("IFRS"), and require publicly accountable enterprises to apply such standards effective for years beginning on or after January 1, 2011. Accordingly, the Company is reporting on this basis in these unaudited condensed interim consolidated financial statements. In the financial statements, the term "Canadian GAAP" refers to Canadian GAAP before the adoption of IFRS.

These unaudited condensed interim consolidated financial statements have been prepared in accordance with IFRS applicable to the preparation of interim financial statements, including IAS 34 "Interim Financial Reporting" and IFRS 1 "First-time Adoption of International Financial Reporting Standards". Subject to certain transition elections disclosed in Note 18, the Company has consistently applied the same accounting policies in its opening IFRS statement of financial position at July 1, 2010 and throughout all periods presented, as if these policies had always been in effect. As disclosed in Note 18, there is no impact of transition to IFRS on the company's reported financial position, financial performance and cash flows, including the nature and effect of significant changes in accounting policies from those used in the company's consolidated financial statements for the year ended June 30, 2011.

The policies applied in these unaudited condensed interim consolidated financial statements are based on IFRS effective for the year ending June 30, 2012, as issued and outstanding as of February 8, 2012, which is the date of approval of the unaudited condensed interim

consolidated financial statements by the Company Board of Directors. Any subsequent changes to IFRS that are given effect in the Company's annual consolidated financial statements for the year ending June 30, 2012 could result in restatement of these condensed interim consolidated financial statements, including transition adjustments recognized on change-over to IFRS.

The unaudited condensed interim consolidated financial statements should be read in conjunction with the Company's Canadian GAAP annual statements for the year ended June 30, 2011.

## **FORWARD-LOOKING STATEMENTS**

All statements in this Management's Discussion and Analysis that are other than statements of historical facts are forward-looking statements which contain the Company's current expectations about its future results. Forward-looking statements, by their nature, involve risks and uncertainties.

Although the Company believes that the expectations reflected in all of its forward-looking statements are reasonable, it can give no assurance that such expectations will prove to be correct. A number of factors may affect the Company's future results and may cause those results to differ materially from those indicated in any forward-looking statements made by the Company. Other than as required by Canadian securities laws, the Company undertakes no obligation to publicly update or revise any of its forward-looking statements, whether as a result of changed circumstances, new information, future events or for any other reason occurring after the date of this Management's Discussion and Analysis.

## **COMPANY OVERVIEW**

CO<sub>2</sub> Solutions is a leading developer of proprietary technologies for carbon dioxide (CO<sub>2</sub>) capture and management. More specifically, the Company is currently focused on commercializing an enzyme-based enabling technology for efficient CO<sub>2</sub> capture from fossil fuel-power plants and other large stationary emitters of CO<sub>2</sub>.

Since its establishment, the Company has worked on developing its technology platform and assembling a broad patent portfolio. To support this effort, it has raised capital, recruited highly-qualified personnel and established strategic partnerships and alliances.

## **SECTOR AND POTENTIAL MARKET OVERVIEW**

The necessity for the reduction in CO<sub>2</sub> emissions has received global attention in the past few years because of accelerating climate change issues. The consensus among the scientific community, the public and our governments is quite clear; the world is getting warmer due to human activity and global warming is accelerating. The main contributor to this acceleration is carbon dioxide emitted from the use of fossil fuels to meet our ever increasing energy appetite; an appetite which is forecast to double by 2035. While renewables and nuclear energy will gain in prominence, their role will be marginal and fossil fuels will remain the primary energy source for decades to come. Many countries are now attempting to accelerate the development and implementation of technologies that clean carbon dioxide emissions from conventional fossil fuel plants, technologies such as that developed and patented by CO<sub>2</sub> Solutions.

In this respect, our second quarter for the fiscal year ending June 30, 2012 continued this positive trend. Our progress on the technical front continued to build upon the very significant achievements of fiscal 2011. Additional milestones were met, moving us further down the path towards commercial deployment of our unique, game-changing and patented carbon capture technology.

## **RECENT DEVELOPMENTS**

### **Government Regulations**

Over the past year, certain governments have taken important leadership roles around the issue of reducing carbon emissions. A number of jurisdictions around the world have now established, or are in the process of developing, GHG cap-and-trade programs. Cap and Trade is a market-based system for managing and reducing industrial greenhouse gas (GHG) emissions.

Canadian provinces (British Columbia, Manitoba, Quebec and Ontario) are working with U.S. states (Arizona, California, New Mexico, Oregon, Washington, Utah and Montana) through the Western Climate Initiative (WCI) to design a cap-and-trade system that will support the transition to a low-carbon economy. WCI is a commitment by its member states and provinces to work together to identify, evaluate and implement policies that tackle climate change at a regional level. This work includes designing a broad-based GHG cap-and-trade system.

#### *Recent Governments steps toward regulation*

Earlier this year the Province of Quebec, announced plans to establish its own cap-and-trade system whereby large industrial plants and other significant sources of carbon dioxide and other GHGs would be required to reduce their emissions on an annual basis beginning January 1, 2013. Bill 89, *An Act to Amend the Environment Quality Act in order to reinforce compliance* was passed in Quebec on October 4, 2011, and confirmed the Province was joining the state of California in this effort and becoming the first Canadian province to start enforcing cap-and-trade regulations for carbon emissions.

Also, in July of 2011, the Government of Australia announced a carbon tax to be levied as of July, 2012 for each ton of carbon pollution emitted and on Nov. 8, Australia passed a bill that would cap emissions and allow companies to trade permits. Finally, in an announcement made on October 20, 2011 by the state of California Environmental Protection Agency Air Resources Board (ARB), the California ARB confirmed the adoption of the final cap-and-trade regulations scheduled to start in 2013 that place a limit on emissions of heat-trapping gases, like carbon dioxide, in the state. Under the program, the emissions cap will decline over seven years and will require that the 600 power plants, refineries and other industrial facilities that emit 85% of the state's greenhouse-gas emissions cut their emissions. The regulation includes rigorous oversight and enforcement provisions, and is designed so that California may link up with programs in other states or Canadian provinces within the Western Climate Initiative referred to above. Other regions that have such programs in place, or legislation pending, include Japan, New Zealand, Switzerland, the European Union, 20 U.S. states and one other Canadian province.

These recent government initiatives demonstrate that, despite the current unsupportive legislative framework, regulation of carbon dioxide pollution is gaining momentum and is now moving from speculation to fact. With CO<sub>2</sub> Solutions patented technology the Company looks

forward to supporting worldwide efforts by industry and governments to efficiently meet regulatory requirements for emissions reductions.

### **Intellectual Property**

CO<sub>2</sub> Solutions continues to hold the broadest portfolio of patents in the field of enzyme enhanced carbon capture. As at December 31, 2011 the Company had, 23 patents issued and 32 pending covering not only the use of carbonic anhydrase with various capture solvents, but also the use of the enzyme in different reactor configurations and in key industrial sectors such as power generation and cement. CO<sub>2</sub> Solutions leading patent position in the use of carbonic anhydrase for efficient carbon capture protects the Company's game-changing technology's position on a worldwide basis. With CO<sub>2</sub> Solutions portfolio of patents, the Company stands to uniquely benefit from the significant potential of this growing global market.

### **CO<sub>2</sub> Solutions Enzyme Development Partner Announces Important Technical Progress**

In August, Codexis, Inc., CO<sub>2</sub> Solutions enzyme development partner reported important technical progress in its carbon capture program at the CO<sub>2</sub> Capture Technology Meeting sponsored by the U.S. Department of Energy/National Energy Technology Laboratory. Codexis, supported by a grant from the DoE's ARPA-E Recovery Act program, is using its patented CodeEvolver™ directed evolution technology to develop processes to reduce carbon dioxide emissions from coal-fired power plants. The research program is based on development of customized carbonic anhydrase (CA) enzymes that could catalyze carbon capture under industrial conditions. Data showed CA performance has been improved by about two million fold over natural forms of the enzyme. Evolved CA enzymes are functional and stable in relatively inexpensive, energy efficient solvents for 24 hours at temperatures greater than 90°C. Use of carbon capture solvents with fully developed enzymes is expected to substantially reduce the costs and energy requirements to capture CO<sub>2</sub> produced by coal-fired power plants. Codexis is jointly developing this technology with CO<sub>2</sub> Solutions, Inc.

### **Update on Carbon Capture Program with Global Leader in Energy Infrastructure**

In early December, 2011, CO<sub>2</sub> Solutions updated the status of its exclusive collaboration with a global leader in energy infrastructure projects with over \$5 billion in annual sales (the "Global Leader") covering the development and pilot scale testing of CO<sub>2</sub> Solutions carbon capture technology to reduce carbon dioxide pollution from coal and other fossil-fired power plants.

The Collaboration Agreement and related Memorandum of Understanding, originally announced December 3, 2010, included an option for the Global Leader to transition the carbon capture program to certain other solvent systems it is developing based on its assessment of the relative potential of the Technology for these systems and upon mutual agreement between the parties. As such, in August 2011, it was announced that the Global Leader had elected to cease work on the original solvent system and at that time provided CO<sub>2</sub> Solutions with the requisite notice to redirect the work to the other solvent systems and of the Global Leader's intent to negotiate a separate definitive collaboration agreement for these certain other solvent systems.

Negotiations on the separate definitive collaboration agreement were well advanced, however, as announced on December 6, 2011, CO<sub>2</sub> Solutions received a formal notice that the Global Leader decided to stop the negotiations for an unlimited period of time. The Global Leader specifically indicated that their decision was not based upon a judgment of the business potential of the technology.

Based on our past internal evaluations and supplemented by the recent technical findings from the program, CO<sub>2</sub> Solutions always believed the intended transition by the Global Leader to the other solvent systems would be a positive move representing significant economic potential. Unfortunately, with the world economy in a slowdown and the current unsupportive legislative framework, many companies are taking a second look at their investments in development programs and are cutting back. CO<sub>2</sub> Solutions believes this is one example. This decision by the Global Leader does not reflect on the strength of CO<sub>2</sub> Solutions technology but rather on the state of the world economic affairs in this time of high uncertainty in the European and North American markets.

While the December decision by the Global Leader was disappointing, given the positive technical project results achieved, CO<sub>2</sub> Solutions remains well positioned to seek out new partners in the power generation sector, while at the same time continuing to scale-up the technology internally in order to capitalize on better global economic conditions moving forward. CO<sub>2</sub> Solutions intends to continue developing its other scale-up opportunities in sectors which are currently less economically impacted.

### **Update on Carbon Capture Program with Alcoa**

On the process development and engineering front, with respect to our pilot program undertaken jointly with Alcoa, scientists and engineers from the Alcoa Technical Center in Pittsburgh are leading the three-year project, which had an investigation phase that ran through December, 2011. Alcoa received a DOE grant for this project as part of an initiative to find ways of converting captured carbon dioxide emissions from industrial sources into useful products. Alcoa and CO<sub>2</sub> Solutions scientists and engineers are currently performing a techno-economic review of the results of the first phase of the project with a view to determining a work plan for the next phases of the project, including the feasibility of moving to a pilot demonstration phase at an Alcoa manufacturing facility. Working closely with our partner, Procede Group, process modeling and optimization should provide a solid techno-economic basis to pursue this scale-up effort towards this larger scale field testing and ultimate commercial deployment.

## **OPERATING RESULTS**

### **Comparison between the Three-Month and Six-Month Periods Ended December 31, 2011 and 2010**

#### Revenues

The Company recorded revenues for research and development collaborations totalling \$148,576 for the three-month period ended December 31, 2011 (\$243,075 for the same period in 2010). These revenues come from the Collaboration Agreements with Alcoa and the Global Leader. The decrease in revenue for the second quarter reflects the completion of the first phase of the collaboration work with the Global Leader and the subsequent decision by that collaborator to stop the negotiations for an unlimited period of time regarding additional work. Revenues for research and development collaborations were \$1,010,860 for the six-month period ended December 31, 2011 (\$334,287 for the same period in 2010).

#### Technology platform development

Research and development expenditures, net of investment tax credits and government assistance, increased by \$32,408 totalling \$156,346 for the three-month period ended December 31, 2011, compared with \$123,938 for the same period in 2010. For the six-month

period ended December 31, 2011, research and development expenditures, net of investment tax credits and government assistance, increased by \$447,903 totalling \$650,012 compared with \$202,109 for the same period in 2010. Increases in both the three-month and six-month periods are mainly attributable to work done internally and by consultants relative to enzyme performance characterization under various industrially relevant operating conditions as well as to explore new avenues for enzyme immobilization and support the Company's commitments under its current collaboration agreements.

During the previous fiscal year the Company received notification of an approved maximum refundable contribution of \$250,000, subject to the Company satisfying certain conditions relative to R&D spending, from the Economic Development Agency of Canada towards the Company's research into the treatment of greenhouse gas emissions, of which \$111,820 was received by the Company on March 31st, 2011. The loan was accrued to a present value of \$97,820 at March 31, 2011, (\$101,526 at December 31, 2011), using an estimated capitalization rate of 5%.

#### Business development expenses

Business development expenses amounted to \$126,726 for the three-month period ended December 31, 2011, compared with \$236,137 for the same period in 2010, representing a decrease of \$109,411. For the six-month period ended December 31, 2011 business development expenses were \$265,394 compared to \$396,821 for the same period in 2010, a decrease of \$131,427. The decreases are primarily attributable to less professional fees paid in 2011 associated with the negotiation of collaboration agreements.

#### General and administrative expenses

General and administrative expenses totalled \$421,807 for the three-month period ended December 31, 2011, compared with \$350,104 for the same period in 2010, representing a net increase of \$71,703. For the six-month period ended December 31, 2011 general and administrative expenses increased \$52,318 to \$716,811 (\$664,493 in 2010). These increases are primarily related to increases in salary and benefits (primarily non-cash stock-based compensation) for the period offset by a decrease in professional fees.

#### Financial expenses and interest income

Net financial expense (bank fees, interest and foreign exchange) for the three-month period ended December 31, 2011, was a gain of \$4,440 compared with an expense of \$362 for the same period in 2010, resulting in a favorable increase for the three-month period of \$4,802. For the six-month period ended December 31, 2011 net financial expense was a gain of \$38,901 (\$607 in 2010). This favorable gain includes \$30,001 from foreign exchange transactions plus interest of \$14,408 from the higher cash balances at the end of the current fiscal quarter.

#### Loss for the period

The Company recorded a loss of \$551,863, or \$0.01 per share, for the three-month period ended December 31, 2011, compared with a loss of \$467,466, or \$0.01 per share, for the same period in 2010. For the six-month period ended December 31, 2011 the Company recorded a loss of \$582,456, or \$0.01 per share, compared with a loss of \$957,230 (\$0.02 per share) for the same period in 2010. No significant factor, other than those described above, contributed to the change in the loss for the quarter or the six-month period.

## SELECTED UNAUDITED QUARTERLY FINANCIAL INFORMATION

The following tables provide a summary of certain elements of financial data regarding the Company for each of the last eight quarters:

	Quarters ended			
	December 31, 2011	September 30, 2011	June 30, 2011	March 31 2011
Revenues	\$148,576	\$862,284	\$847,607	\$732,224
Net loss	\$551,863	\$30,593	\$108,410	\$201,913
Net loss per share	\$0.01	\$0.00	\$0.00	\$0.00

	Quarters ended			
	December 31, 2010	September 30, 2010	June 30, 2010 <sup>(1)</sup>	March 31, 2010 <sup>(1)</sup>
Revenues	\$243,075	\$91,212	\$0	\$10,118
Net loss	\$467,466	\$489,764	\$598,171	\$540,245
Net loss per share	\$0.01	\$0.01	\$0.01	\$0.01

(1): data have not been adjusted to reflect the new standards IFRS. Only fiscal 2011 and 2012 data were adjusted.

## LIQUID ASSETS AND CASH FLOWS

Cash and term deposits totalled \$4,009,666 as at December 31, 2011, compared with \$1,780,183 as at December 31, 2010. This increase in cash is a result of the proceeds received from the private placement financing completed in August 2011.

### Cash flow related to operating activities

For the three-month period ended December 31, 2011, cash flow required for operating activities amounted to \$547,141 compared with cash flow generated of \$154,548 for the same period in 2010. This \$701,689 decrease is attributable primarily to changes in the non-cash working capital items. For the six-month period ended December 31, 2011 the required cash flow was \$50,762 compared to \$514,209 for the same period in 2010. This decrease of \$463,447 is mainly due to the improvement in revenue.

### Cash flow related to investment activities

For the three-month period ended December 31, 2011, cash flow required by investment activities amounted to \$74,976 compared with cash flow generated of \$755,323 for the same period in 2010, a difference of \$830,299. This difference is mainly attributable to a decrease in fiscal 2011 in the level of term deposits (prior to private placement financing). For the six-month period ended December 31, 2011 cash flow generated amounted to \$65,963 compared to \$1,005,537 for the same period in 2010. The decrease of \$939,574 is attributable to the decrease in term deposits from \$1,096,233 in 2010 to \$187,628 in 2011.

### Cash flow related to financing activities

The cash flow generated by financing activities for the three-month period ended December 31, 2011, amounted to \$479 compared with \$2,883 for the same period in 2010. For the six-month period ended December 31, 2011 cash flow generated from financing activities amounted to \$3,861,352 compared to \$2,883 for the same period in 2010. This increase in cash flow is primarily attributable to the net proceeds from the private placement completed in August 2011.



## **LIQUIDITY AND SOLVENCY**

To date, the Company has financed its operations mainly through cash flow obtained from technology development collaborations, the issuance of capital stock and government assistance.

At December 31, 2011, the Company has \$4,009,666 in cash and term deposits, and \$159,225 in outstanding trade accounts receivable for a total of \$4,168,891 (\$1,874,892 as at December 31, 2010).

On August 31, 2011, CO<sub>2</sub> Solutions announced the close of a brokered private placement offering with net cash proceeds of \$4,043,074. With the receipt of the proceeds from this offering and the close monitoring of operating expenses Management believes the Company has sufficient funds to meet its cash requirements for at least the next 6 quarters.

The Company's access to sufficient long-term capital depends on the ability to generate a profit in the future. This will depend in part on its ability to effectively commercialize its technology, the results of research and development activities, favourable market conditions, and to overall economic conditions. Investments in commercialization activities are used to generate income; however, it is difficult to predict exactly when this income will materialize.

As at December 31, 2011 the Company benefited from credit facilities in the form of an operating line of credit of \$150,000 bearing interest at prime plus 2% and is secured by a universal charge on the company's assets to a maximum of \$225,000. As at December 30, 2011, this operating line of credit was unused.

## **COMMITMENTS & CONTINGENCIES**

As disclosed in Note 19 to the June 30, 2011 audited Consolidated Financial Statements, in July 2011, Revenue Quebec notified Fiducie Financière CO<sub>2</sub> Solution of their intention to modify the tax treatment, and issue an assessment related thereto, relative to certain capital transactions between CO<sub>2</sub> Solutions Inc. and some of its consolidated variable interest entities, namely CO<sub>2</sub> Solution Technologies Inc. and Fiducie Financière CO<sub>2</sub> Solution, which occurred during the December 31, 2008 taxation year of Fiducie Financière CO<sub>2</sub> Solution. On December 29, 2011, that assessment was received by Fiducie Financière CO<sub>2</sub> Solution. The Company's position with respect to this assessment, that being Fiducie Financière CO<sub>2</sub> Solution's intent to object to the assessment and the opinion of Fiducie Financière CO<sub>2</sub> Solution's that its tax filing position will ultimately prevail, has not changed from that which was disclosed in Note 19 to the June 30, 2011 audited Consolidated Financial Statements. There has been no change in the commitments or contingencies of the Company from those described in the Company's June 30, 2011 audited Consolidated Financial Statements.

## **INFORMATION REGARDING CAPITAL STOCK**

As at February 8, 2012, the number of outstanding common shares, warrants and stock options is respectively 79,187,836, 11,773,968, and 5,464,530.

## RELATED PARTY TRANSACTIONS AND OFF-BALANCE SHEET AGREEMENTS

As at December 31, 2011, the Company has recorded a \$475,000 advance from a shareholder with significant influence, bearing no interest and payable under certain conditions (\$475,000 for the same period in 2010). Pursuant to the extension of the agreement with that shareholder in January 2011, repayment of this advance has now effectively been deferred indefinitely or until certain subsequent agreements may be negotiated between the parties. The amount outstanding is classified as a long-term debt. As at December 31, 2011, there were no other related party transactions nor were there any off-balance sheet agreements.

## OUTLOOK 2011-2012

### Liquidity and operational effectiveness

As noted earlier, at December 31, 2011, the Company has over \$4.0 million in liquid assets. In addition, with the collaboration revenue pipeline the Company is currently pursuing, favorable tax credits and its rigorous oversight of expenses, the Company should be able to continue its current projects and pursue new scale-up projects.

### Scale-up partnership with global leader in power generation

The quarter ended September 30, 2011 was a positive one in terms of continued growth and of significant milestones met for CO<sub>2</sub> Solutions as the company continued to build on its previous success. Building on the previously executed exclusive technology development agreements with Procede Group B.V., CLEA Technologies B.V., and Codexis, Inc., CO<sub>2</sub> Solutions continued work on the first scale-up partnership with a global leader in energy infrastructure and carbon capture technology with over \$5 billion in annual sales (the Global Leader). The Collaboration Agreement with this Global Leader covered the development and pilot scale testing of CO<sub>2</sub> Solutions' technology for coal-fired power plants, one of the largest global sources of harmful greenhouse gas emissions.

As noted previously, despite the positively advancing negotiations with the Global Leader on a new separate definitive collaboration agreement, in early December 2011, CO<sub>2</sub> Solutions received formal notice that the Global Leader has decided to halt the discussions regarding the next phase of the project for an unlimited period of time. The Global Leader specifically indicated that its decision was not based upon a judgment of the business potential of the technology. While the December 2011 decision by the Global Leader was disappointing, given the positive technical results achieved, CO<sub>2</sub> Solutions remains well positioned to seek out new partners in the power generation sector, while at the same time continuing to scale-up the technology internally in order to capitalize on better global economic conditions moving forward. CO<sub>2</sub> Solutions intends to continue developing its other scale-up opportunities in sectors which are currently less economically impacted.

### Scale-up partnership with Alcoa

The Company continues work on the previously announced pilot program, in collaboration with Alcoa and Codexis, Inc. focused on carbon capture technology designed to sequester industrial carbon emissions from the aluminum manufacturing process and neutralizing the manufacturing by-product material, bauxite residue, to create a commercially viable product.

The \$16.5 million project is the latest innovation from the world's leading aluminum producer and is being funded by Alcoa along with approximately \$13.5 million in funding from the U.S. Department of Energy (DOE) received from an award with the National Energy Technology Laboratory (NETL).

The pilot program, part of Alcoa's ongoing commitment to enhance its operational sustainability, will use an innovative and proprietary induct scrubber technology to capture emissions. The collaboration is intended to devise solutions that treat and utilize a primary byproduct of the aluminum manufacturing process known as alkaline clay, or bauxite residue, as well as other alkaline industrial residuals. This pilot project will test a scrubbing process that combines treated flue gas, enzymes and alkaline clay to create a mineral-rich neutralized product that could be used for environmental reclamation projects. The project is emblematic of how Alcoa is leveraging its extensive R&D capabilities and utilizing game-changing technologies from companies like CO<sub>2</sub> Solutions and Codexis to advance sustainable solutions that can have an impact beyond Alcoa's operations.

Scientists and engineers from Alcoa Technical Center in Pittsburgh are leading the three-year project, which had an investigation phase that ran through December, 2011. The DOE grant was received as part of an initiative to find ways of converting captured carbon dioxide emissions from industrial sources into useful products. Alcoa and CO<sub>2</sub> Solutions scientists and engineers are currently performing a techno-economic review of the results of the first phase of the project with a view to determining a work plan for the next phases of the project, including the feasibility of moving to the pilot demonstration phase at a manufacturing facility to be determined by Alcoa.

#### Additional scale-up opportunities

CO<sub>2</sub> Solutions is now targeting the implementation of its technology in the Alberta oil sands sector. It is estimated that 80% of present oil sands reserves are only accessible through in-situ production where steam is injected to heat and extract the oil contained in the sands in a process known as Steam Assisted Gravity Drainage (SAGD). In the SAGD process, significant quantities of natural gas are combusted to generate the required process steam. Encouraging discussions are ongoing with large end-use customers with view forming a collaboration to exploit the CO<sub>2</sub> Solutions technology to capture significant amounts of CO<sub>2</sub> generated from this natural gas combustion process.

In addition, the Company is continuing its discussions with potential partners from the cement industry who have shown interest in CO<sub>2</sub> Solutions' technology as a potential solution to manage their carbon footprints, while also exploring opportunities in the iron and steel industries and in the use of CO<sub>2</sub> for algae production. In some cases, these potential partners may also have developed, or are developing proprietary carbon capture processes suited to their specific emission sources which can be significantly enhanced by CO<sub>2</sub> Solutions' enzymatic technology. These opportunities represent the potential to work through tailored scale-up and validation programs, both in the lab and in the field, toward eventual commercial scale deployment in their operations and/or licensing to others in their respective industries.

Given the positive nature of a number of these discussions, management is confident that one additional scale-up partnership will be secured during the balance of the 2012 fiscal year.

In addition to the above, CO<sub>2</sub> Solutions' management team will continue to pursue a multi-pronged strategy aimed at advancing its technology development and deployment. The prime focus in the short term will be as follows:

#### Advancing the industrial readiness of the technology

Leveraging its internal R&D focus and efforts, CO<sub>2</sub> Solutions intends to continue to fully exploit its relationships with Codexis and Procede Group, to bring the best resources to bear in advancing its technology towards commercial readiness. On the enzyme evolution and supply

front, Codexis has, and is expected to continue to make significant progress in increasing the industrial stability and longevity of the enzyme catalyst. This will assist in positioning CO<sub>2</sub> Solutions' technology for pilot and larger scale demonstrations under real-world conditions where significant quantities of robust enzymes are required.

In the area of enzyme delivery and management in the carbon capture process, the Company will continue work on parallel technology paths with internal development efforts which leverage the Company's significant expertise in the area of enzyme immobilization. This work is expected to enhance industrial readiness by incorporating leading-edge processes in which the enzyme is delivered to the carbon capture system as micro-sized particles possessing improved tolerance to high-process temperatures. In addition, these particles can be confined to the front-end CO<sub>2</sub> absorption stage (where the enzyme provides the maximum beneficial impact), without being exposed to the harsher, back-end desorption process, leading to improved system economics.

Lastly, on the process development and engineering front, the Company will begin to seek out new potential partners in the power generation sector, while at the same time continuing to scale-up the technology internally in order to capitalize on better global economic conditions moving forward.

#### Leveraging government funding for development and scale-up

To further support its technology validation and scale-up efforts, CO<sub>2</sub> Solutions has confidence that it can continue to tap into beneficial government funding programs in Canada, the U.S. and abroad, and with strategic partners. In Canada, the Company remains hopeful that the Federal Government will see the significant economic and environmental value that exists in supporting home grown, exportable carbon capture technologies such as CO<sub>2</sub> Solutions' that have the potential to significantly reduce the current high cost of carbon capture in Canada and internationally. In western Canada the Alberta GHG reduction process has opened up new opportunities for joint projects to manage CO<sub>2</sub> emissions in the oil sands sector. CO<sub>2</sub> Solutions is actively working on partnerships to advance our technology for use in this sector. In the U.S., in addition to the ARPA-E project with Codexis, and the U.S. Department of Energy support of the Alcoa project, CO<sub>2</sub> Solutions will continue to pursue funding opportunities where possible for its technology, with the possibility of exploiting cross-border clean technology initiatives. The recent announcements made by the State of California Air Resources Board, Australia and the Canadian provinces of Alberta and Quebec, along with the Western Climate Initiative continue to reflect the trend of governments around the world viewing the GHG issue as critical. This trend supports our beliefs that additional regulation will be forthcoming.

#### Continued expansion of intellectual property dominance

As the world searches for innovative solutions to lower the current cost barrier to CO<sub>2</sub> capture, continuing along the trend started in past years, and the continued growth in industry interest in the potential of enzyme-enabled carbon capture, largely pioneered by CO<sub>2</sub> Solutions, has emerged as a focal point in its own right. This is particularly the case south of the border, where the United States' government has recently invested millions of dollars in enzyme-related projects. It is fortunate that the Company has a broad international patent position in the field which will both allow it to commercialize its technology and block potential competitors from entering the market. In this regard, CO<sub>2</sub> Solutions will continue to expand its intellectual property dominance with the filing of new patents.

## **CRITICAL ACCOUNTING POLICIES AND ESTIMATES**

Our unaudited condensed interim consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (“IFRS”) applicable to the preparation of interim financial statements, IAS 34, “Interim Financial Reporting”. These are the Company’s second quarter consolidated financial statements prepared in accordance with IFRS; in consequence the Company explains its choices related to IFRS 1, “First-time Adoption of International Financial Reporting Standards”, in note 18 of the financial statements.

The Company has consistently applied the same accounting policies in its opening IFRS consolidated statement of financial position at July 1, 2010 and throughout all periods presented, as if these accounting policies had always been in effect. Note 18 of the financial statements for the quarter ended December 31, 2011 discloses the impact of the transition to IFRS on the Company’s reported consolidated equity, consolidated statement of comprehensive loss, including the nature and effect of significant changes in accounting policies from those used in the Company’s consolidated financial statements for the year ended June 30, 2011. Any subsequent changes to IFRS that are given effect in the Company’s annual consolidated financial statements for the year ending June 30, 2012 could result in restatement of these interim consolidated financial statements, including the transition adjustments recognized on changeover to IFRS.

The full description of accounting policies and estimates are presented in the relevant section of the Company’s financial statements for the quarter ended December 31, 2011.

Estimates, assumptions and judgements are continually evaluated by the Company and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances.

The Company makes estimates, assumptions and judgments concerning the future. The estimates, assumptions and judgments that have a risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are addressed below. Actual results could differ from these estimates.

## **FUTURE ACCOUNTING CHANGES**

The IASB issued the following standards which are relevant but have not yet been adopted by the Company: IFRS 9, Financial Instruments, IFRS 10, Consolidated Financial Statement, IFRS 13, Fair Value Measurement and amended IAS 1, Presentation of Financial Statements. Each of the new standards is effective for annual periods beginning on or after January 1, 2013 with early adoption permitted except for the amendment to IAS 1 which is effective for annual periods beginning on or after July 1, 2012. The Company has not yet begun the process of assessing the impact that the new and amended standards will have on its financial statements or whether to early adopt any of the new requirements.

The following is a brief summary of the new standards and amendment:

### IFRS 9 – Financial instruments

IFRS 9 was issued in November 2009. It addresses classification and measurement of financial assets and replaces the multiple category and measurement models in IAS 39, Financial Instruments – Recognition and Measurement, for debt instruments with a new mixed measurement model with only two categories: amortized cost and fair value through profit or

loss. IFRS 9 also replaces the models for measuring equity instruments and such instruments are either recognized at fair value through profit or loss or at fair value through other comprehensive income. Where such equity instruments are measured at fair value through other comprehensive income, dividends, to the extent not clearly representing a return of investment, are recognized in profit or loss; however, other gains and losses (including impairments) associated with such instruments remain in accumulated comprehensive income indefinitely.

Requirements for financial liabilities were added in October 2010 and they largely carried forward existing requirements in IAS 39, except that fair value changes due to credit risk for liabilities designated at fair value through profit and loss would generally be recorded in other comprehensive income.

#### IFRS 10 – Consolidation

IFRS 10 was issued in May 2011. It requires an entity to consolidate an investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Under existing IFRS, consolidation is required when an entity has the power to govern the financial and operating policies of an entity so as to obtain benefits from its activities. IFRS 10 replaces SIC-12 Consolidation—Special Purpose Entities and parts of IAS 27 Consolidated and Separate Financial Statements.

#### IFRS 13 – Fair Value Measurement

IFRS 13 was issued in May 2011. It is a comprehensive standard for fair value measurement and disclosure requirements for use across all IFRS standards. The new standard clarifies that fair value is the price that would be received to sell an asset, or paid to transfer a liability in an orderly transaction between market participants, at the measurement date. It also establishes disclosures about fair value measurement. Under existing IFRS, guidance on measuring and disclosing fair value is dispersed among the specific standards requiring fair value measurements and in many cases does not reflect a clear measurement basis or consistent disclosures.

#### IAS 1 – Presentation of Financial Statements

Amendment to IAS 1 – Presentation of Items of other comprehensive Income: IAS 1 has been amended to change the disclosure of items presented in Other Comprehensive Income ("OCI"), including a requirement to separate items presented in OCI into two groups based on whether or not they may be recycled to profit or loss in the future.

### **RISK FACTORS AND UNCERTAINTIES**

The Company's activities are subject to some risk factors that generally affect biotechnology companies. The profitability of the Company will depend on its ability to successfully develop its technologies, to preserve its intellectual property rights, to maintain its highly qualified personnel, to conclude strategic alliances, research and development partnerships, and strategic out-licensing agreements. These activities require important financial investments. Therefore, the Company's ability to obtain necessary liquidities to finance its activities is essential to ensure future success and is as such an additional risk factor. The reader is referred to the applicable general risk and uncertainties described in CO<sub>2</sub> Solutions most recent Annual Report under the heading "Risk Factors and Uncertainties".

## INTERNAL CONTROL OVER FINANCIAL REPORTING

Internal control over financial reporting (“ICFR”) is designed to provide reasonable assurance regarding the reliability of the Company’s financial reporting and its compliance with IFRS in its financial statements. The Company’s Chief Executive Officer and Chief Financial Officer are responsible for establishing and maintaining disclosure controls over financial reporting to the issuers. They established the internal control over financial reporting or had it established under their supervision in order to obtain reasonable assurance about the reliability of the financial reporting and to make sure that the financial statements were being prepared accordingly with IFRS.

The Chief Executive Officer and the Chief Financial Officer have evaluated whether there were changes to its ICFR during the quarter ended December 31, 2011 that have materially affected, or that are reasonably likely to materially affect its ICFR. No such changes were identified through their evaluation.

## AUDITORS

This Management’s Discussion and Analysis and the condensed interim consolidated financial statements for the three and six month periods ended December 31, 2011 and 2010 have not been audited nor reviewed by the external auditors.

## ADDITIONAL AND CONTINUOUS DISCLOSURE

This analysis was prepared on February 8, 2012. Additional disclosure is provided on the SEDAR Web site at: [www.sedar.com](http://www.sedar.com).

On behalf of management,



Thom Skinner, CA  
Senior Vice President, Finance  
and Chief Financial Officer



Glenn R. Kelly  
President and Chief Executive Officer

February 8, 2012